

**ABSTRACT OF THE DISCLOSURE**

**METHOD AND APPARATUS TO COMPENSATE FOR FUNDAMENTAL  
FREQUENCY CHANGES AND ARTIFACTS AND REDUCE SENSITIVITY  
5 TO PITCH INFORMATION IN A FRAME-BASED SPEECH PROCESSING  
SYSTEM**

A method, computer program product, and data processing system for compensating for fundamental frequency changes in a frame-based speech processing  
10 system is disclosed. In a preferred embodiment of the present invention, a frame of a voiced speech signal is processed by an inverse linear-predictive filter to obtain a residual signal that is indicative of the fundamental tone emitted by the speaker's vocal cords. A transformation function is applied to the frame to limit the frame to an integer number of pitch cycles. This transformed frame is used in conjunction with  
15 vocal tract parameters obtained from the original speech signal frame to construct a pitch-adjusted speech signal that can more easily be understood by speech- or speaker recognition software.